

Overview of Different Information about Acute Radiation Syndrome among Inhabitants around Chernobyl

Alla YAROSHINSKAYA

*Alla Yaroshinskaya Charity Fund
20/2 Beresnevskaya naberezhnaya, Moscow 103790, Russia
Tel: +7-095-959-0914 e-mail: yaro@glas.apc.org*

The Chernobyl nuclear catastrophe has divided scientists of the world, studying the consequences of its impact on the health of people, into two opposed, at times irreconcilable blocks. The first block generally comprises representatives of medical officials in the soviet and post-soviet society. They have been concealing the truth from the soviet and the world public for years. This group advocates the point of view that, except for firemen and several staff members who died at the time of the catastrophe, the Chernobyl accident has produced no practical impact on human health and will not do any such effect also in future. The second block consists basically of independent scientists. They are anxious about the facts of concealment of the truth on actual radiation doses, received by inhabitants of the areas around the Chernobyl NPP (ChNPP), as well as about impacts of low radiation dose on human health. Scientists of the second block are convinced that doses received by the population in the first days and months after the catastrophe at the ChNPP have played and will play significantly negative roles in worsening of human health years after the accident. The data on these doses have been deliberately concealed by the authorities from both the sufferers and the public. This fact has been already proven (by the Procurator General of the Ukraine as well).

I have official and unofficial documents in my Chernobyl archive, which are demonstrating two approaching ways to the problems of radiological consequences due to the Chernobyl catastrophe. I would like to emphasise that these documents have never been published anywhere.

In searching the answer to the question about the acute radiation syndrome among inhabitants in the areas around the Chernobyl NPP in the first weeks and months after the catastrophe, we will compare positions, arguments and conclusions of two blocks based on the facts presented in these documents.

What has been publicly said about risks of irradiation by soviet medical officials?

Official position of the party leaders of the Soviet Union on the problem about the scale of the catastrophe at the ChNPP and its impact on human health has been known from the party press. Its main conclusion was

the following: the population has experienced no health changes and will not experience any. This political diagnosis was made considering the ideological conflict between totalitarianism and democracy. It did not contain a shred of truth. The overall concealment of truth on radioactively contaminated areas had lasted for three years — till the first Congress of People's Deputies of the USSR. The lies of both the authorities and the medical officials were at first disclosed by speeches of the deputies, acting on behalf of the affected territories' electorate, of the Gorbachev period, and by the first open hearings at the parliament session on the catastrophe at the ChNPP and its consequences for human health and the environment.

The official medical documents from my archive allow to trace easily the dynamics of changes in the position of "fathers" of the notorious soviet 35-rem concept for safe living of the population in the affected territories. Briefly, the essence of this concept lies in a belief that a person may receive 35 rem over 70 years without health disorders. A month after the accident this "ceiling" was increased to 70 rem over 70 years, and several months later was decreased to 50 rem over 70 years, then to 35 rem. The same official scientists — L.A.Ilyin, E.I.Chazov and A.KGuskova had stated in their book, written before the Chernobyl accident in 1982, that the threshold is 25 rem over lifetime. Hence, we can conclude the "scientific" nature of the mentioned official concept.

The first open report under the title "Radio-contamination Patterns and Possible Health Consequences of the Accident at the Chernobyl Nuclear Power Station" (70 pages typescript) was presented by Academician L.A.Ilyin at the General Session of the Academy of Medical Sciences of the USSR in Moscow, which took place on the 21st-23rd of March 1989 [1]. An important remarkable thing: this open report had taken place just on the eve of the first Congress of the People's Deputies of the USSR (the Congress opened on the 25th of May 1989). The Moscow authorities had no doubts that this question was going to be raised by deputies at the Congress, thus they decided to avoid the blow in advance.

Although the report was made by L.A.Ilyin, it was signed by 23 official medical celebrities from Russia, the Ukraine, Byelorussia. In the Soviet Union, responsibility has always been collective and never

been personal. This was more convenient and safe. Many of the above-mentioned scientists still hold influential posts in science and, even 11 years after the catastrophe, they continue to deny the obvious and proven facts about the impact of the Chernobyl catastrophe on the health of the population.

In the paragraph "The Characteristics of Radiation Exposure of the Population, and Theoretical Premises for Prediction of Late Radiological Consequences" of the report, it was noted that "thyroid irradiation doses as a result of radioiodine incorporation were delivered over a comparatively short period — two to three months after the accident. Immediately after the accident, the Ministry of Health of the USSR implemented a previously composed emergency regulation on the maximum acceptable concentration of ^{131}I in milk ($3,700 \text{ Bq l}^{-1}$), corresponding to a radiation dose to thyroid of children of 0.3 Sv (30 rem). Preliminary assessments suggest that, due to a series of measures recommended by the Ministry of Health of the USSR to protect the population from radiation in the early phase, and especially to prevent or reduce radioiodine intake by the human body, probable radiation doses were on average by 50% and in some places by 80% lower than they would have been had the protective measures not been taken." The authors of the report state that "absorbed doses were calculated by computer for inhabitants of each settlement in the strict control zones for different times after the accident, including prediction of radiation burden in humans up to the year 2060." The authors specify that, although the widely accepted hypothesis of non-threshold impact of radiation on human health "exaggerates the actual risk of late effects", they have used this approach, "realising its limitation for extrapolation and a need for prudent interpretation of the results obtained." So, what are the limitations that the authors bear in mind? In their report, they state that "one of the main objections (to the non-threshold hypothesis — A.Ya.) is that the values of risk factors e.g. probabilities of effect per unit of dose, have in fact been deduced from observations at high doses and high dose rates." And further on: "No stochastic effects of somatic or genetic nature have been observed in the low dose range." These statements are at least strange even for a non-specialist in radiobiology, because at that time the results of studies on impact of low radiation doses on human health have been already published by such world-known scientists as John Gofman, Rosalie Bertell, Ralph Greyb, Petko, etc. Furthermore, one should consider that the United Nations Scientific Committee on the Effects of Atomic Radiation, which "legitimatised" on international scale the non-threshold (not the threshold) concept of low radiation doses impact on human health, had followed scientific, not emotional estimates.

In the paragraph "The Prediction of Possible Stochastic Effects in Different Groups of the Population of the USSR after Exposure of the Thyroid

as a Result of the Accident at the ChNPP", the authors give, by means of the specified approaches, their "predictions for three levels of exposure of the whole population and separately for children aged 0-7 years at the time of the accident: 1) for 39 districts of 9 regions where the levels of exposure were relatively high (total population about 1.5 million, including 158,000 children); 2) for the entire population of these regions (15.6 million, including 1.666 million children aged 0-7 years); and 3) for the population of the central regions of the European part of the USSR (75 million, including 8 million children aged 0-7 years)". For the first time after the catastrophe at the ChNPP these data have been opened to the public. Bear in mind that the report was made in 1989, three years after the catastrophe had happened.

What are the official prognoses? "... according to the linear (non-threshold) hypothesis, the projected number of malignant thyroid tumour among children aged 0-7 years is around 90 in the whole period of 30 years following the accident. This includes about 10 projected fatal cases." For the whole population of these districts (1.5 million) a possible 200 excess cases of malignant tumour over the 30 years period were predicted without correction of the specified hypothesis.

Investigation of the possible consequences of irradiation of thyroid for the whole population in the relevant regions (9 regions — A.Ya.) and, in the first place Kiev, Gomel, Bryansk and Zhitomir regions shows that malignant tumour may amount to $3.3 \cdot 10^2$, including $3 \cdot 10^1$ incurable cases." The prediction for the population of the Central regions of the European part of the USSR, including the whole territory of the Ukraine, Byelorussia, Moldavia and several central regions of the RSFSR (now Russian Federation) — 75 million people, including 8 million children aged 0-7 years — are following. "The projected numbers of thyroid malignant tumour caused by radiation in the 30 years following the accident are as follows: incurable tumours in children — up to 20 and in the whole population — up to 50; curable malignant tumours are up to 170 and up to 400 cases, respectively."

In the paragraph "Prediction of Possible Late Effects of Whole Body Exposure in Various Groups of the Population of the USSR as a Result of the Accident at the ChNPP" of the report, the estimates of the population irradiation are given. Here appears the 35-rem concept of the Ministry of Health of the USSR. It is especially noted that for the population of the strict control zones (SCZ) "the estimations of late effects was based on the actual doses in the four years following the accident and on the projected doses until 2060, the latter having been calculated on the assumption that restrictions on the use of home-grown products would be lifted in the SCZs." Hence, two simple questions arise. Firstly, the time of this report was three years, not four, since the accident. If this is an error on the part of

the authors, it is very symptomatic. Secondly, WHO and WHEN had ACTUALLY evaluated the doses received by the population in the first 2-3 months? I know very well about the efforts made by officials in the Narodichi district of the Zhitomir region in order to eliminate primary medical documents representing the ACTUAL doses. Instead, medical staffs were ordered to register understated dose values. Are these "ACTUAL" dose estimates worth of belief? Of the same nature are the official secret documents of the Academy of Medical Sciences of the USSR from my archive. According to these documents, even autopsies of those who died after the accident, including children, have not been carried out in the strict control zone in Zhitomir region. However, if the authors of the report are confident in what they say, why were these "actual doses" not accessible, and are still not accessible for analysis not only to common people interested in these problems, but also to doctors of medicine, radiobiology?

The conclusion, drawn by the authors in the prediction of the future of the population of the strict control zones, is astonishing: "Despite a trend for increase in spontaneous morbidity and mortality of malignant neoplasm, which is registered in data from all over the USSR, values of these parameters are assumed to remain stable throughout the investigated 70 years period. Hence, ratios of increase in the number of excess fatal tumours over their spontaneous level can only be corrected to their decrease." This idea is repeated in the general conclusion: "The data presented in this report provide evidence that the predicted levels of the discussed radiogenic effects as a result of the accident at the Chernobyl NPP, in the majority of cases including the population in the strict control zones, will likely be in the range of values which are less than standard deviations of spontaneous levels of the corresponding pathology." In other words, among the population and, in the first place, among the population residing in the strict control zones and being exposed to irradiation every day since the catastrophe at the ChNPP, the authors say, there will be less fatal cases of induced cancers than among the population of all other territories. Speaking of thyroid tumour, the authors conclude that "excess incidence of radiogenic tumour of this organ may be noticeable." In short, it may or may not be noticeable. Today, only 11 years, instead of 30 years, since the catastrophe at the ChNPP, it is obvious what these collective soviet prediction are worth.

A year later, at the parliament sessions in the Supreme Soviet of the USSR, the same academician L.A.Ilyin told deputies that "1 million 600 thousand children have received doses that are causing our worries; we need to decide what is to be done further." In 1990 in the meeting of the Supreme Soviet of the USSR, the Chairman of the Government Commission on Liquidation of the Consequences of the Accident at the Chernobyl NPP, V.Ch.Doguzhiev said [2]: "... the

irradiation dose of 62 percent of the population who were subject to medical examination was found to be 1 to 5 rem. Out of 1.5 million people residing in areas most contaminated with radioiodine, including 160 thousand children, thyroid irradiation dose of 87 percent of adults and 48 percent of children was at most 30 rem. Of 17 percent of children the dose amounted to 100 rem."

What have soviet medical officials been saying about radiation dose to the public?

As I was sorting my Chernobyl archive, which accumulated a great deal of various materials, I came across a very interesting document that may become a sensation. Over 11 years after the catastrophe at Chernobyl, many different secret official documents have been published (by me, as well). However, I have seen nothing of the kind so far. FOR THE FIRST TIME concrete and ACTUAL doses, received by people in the first months after the catastrophe at the CNNP, are concerned.

On the 26th of May 1987 the Minister of Health of the Ukrainian SSR, A.E.Romanenko reported a letter N428c "On course of implementation of the decree N527-dsp of the Ministry of Health of the USSR from the 13.04.1987" to the Minister of Health of the USSR, E.I.Chazov [3]. With stamps of "Secret" and "No right for publication" of the CPSU (Communist Party of the Soviet Union) Central Committee, there was noted: "215 thousand inhabitants, including 74.6 thousand children, reside in the districts with increased radiation levels of the Kiev, Zhitomir and Chernigov regions. 39.6 thousand persons, that have not been registered previously, were found ill. In cases of different somatic disorders, patients are subject to continuous observation, hospital and out-patient treatment. The total number of hospitalised persons over the year is 20.2 thousand persons, including 6 thousand children." And now — attention: "IN THE FIRST MONTHS AFTER THE ACCIDENT AT THE ChNPP DOSIMETRIC MEASUREMENTS OF THYROID GLAND OF ALL CHILDREN HAVE BEEN CONDUCTED. THE CONTENT OF IODINE RADIONUCLIDES, EXCEEDING 500 REM WAS FOUND AMONG 2.6 THOUSAND CHILDREN (3.4%)." Could it be that the group of soviet scientists, who signed the above-mentioned report, as well as Academician L.A.Ilyin, did not know about these literally deadly facts? In that case, how is it possible to consider the estimates of radiation doses and predictions of their effects, presented in the 70 pages of the report on the session of the Academy of Medical Sciences of the USSR, to be scientific?

It is still unknown to the public how many other children have received thyroid irradiation less than 500 rem. The Minister of Health, E.I.Chazov in his memorandum [4] to the CPSU Central Committee on the 16th of November 1987 N3634s, with stamps of

"Secret" and "No right for publication" of the CPSU Central Committee, reports: "By 30.09.1987, 620,016 people are subject to hospital observation. 5,213 people have been hospitalised for thorough medical examination and specifying of diagnoses established, but not related to radiation effects, during hospital examination." It is not known whether the Minister had taken into account 2.6 thousand children in the Ukrainian radiation zone with more than 500 rem of thyroid irradiation. If he had, how could he explain that these truly crazy doses, unbelievable not only for children but also for adults, was not related to the impacts of irradiation? The most reliable explanation, from my point of view, is that the CPSU Central Committee wanted to hear their own "truth". And the Minister had not failed to present it.

In the draft of the decree of CPSU Central Committee "On implementation of the resolution of the XXVIII Congress of the CPSU "On political estimation of the catastrophe at the Chernobyl NPP and the course of elimination of its consequences", dated the 28th of December 1990, reported by the Secretariat of the CPSU Central Committee to the General Secretary of the CPSU Central Committee, V.A.Ivashko, it was noted [5]: "The consequences of the accident continue to produce effect on birth-rate and life-span. Thus, over the past 4 years, birth-rate in the Belorussian SSR has decreased by 10 percent; malignant tumour mortality has increased. It has increased by more than 19 percent in Mogilev and Gomel regions." These conclusions of the CPSU Central Committee have nothing in common with the optimistic conclusions on estimations of doses, presented in the before-mentioned report, signed by 23 scientists of the Academy of Medical Sciences of the USSR a year earlier.

This means that the following is quite real: the actual estimates of the doses received in the first 2-3 months after the catastrophe at the Chernobyl nuclear plant are unknown to the public even after 11 years.

Some light was cast upon the classifying and distortion of actual doses by an Academician of the Academy of Medical Sciences of the USSR, the director of the All-Union Scientific Haematological Centre, Professor A.I.Vorob'ev. He wrote an article "Why Soviet Radiation is the Safest" in Moscow News dated 18th of August of 1991 [6]. The author reported that "in the first days 15,000 people have been mistakenly hospitalised in the Ukraine because there were no specialists in the accident area. However, on the 2nd of May 1986, an instruction on diagnosing acute radiation syndrome (ARS) was published, and then all the people hospitalised by mistake have been discharged from the hospitals." This discharge suggests some affairs to be considered and concluded. In my book "Chernobyl: Top Secret [7]" I have published 40 secret protocols of the Operative Group of the CPSU Central Committee Politburo on liquidation of consequences of the accident at the ChNPP. These

protocols indicate that the Politburo had urgently revised the maximum acceptable doses and increased them by several times. Just then all the hospitalised —according to the protocols their number was really 15,000 people — have been found healthy and discharged. Is this what Professor Vorob'ev means? In this case, contrariwise, his confession is just another indirect acknowledgement of the fact that approximately 15 thousand people have received ARS during the first weeks and months, and only the special regulation issued by the Politburo in concordance with the court medics had helped the soviet government not only for concealing this fact, but also not to hospitalise new victims of the catastrophe by the new dose limits.

Further in his article the professor seems to contradict himself. He reports that "In 40% of examined inhabitants of the Chernobyl region no irradiation doses have been found, 50% have received 50 rad, and more than 5% have received a dose of 50-80 rad. In the last group a marked increase in tumour incidence may be expected. 2% of inhabitants in the contaminated districts... have been irradiated with a dose of more than 100 rad. Among liquidators, this dose group is even larger." Vorob'ev also notes in his article: "In some persons in Gomel and Bryansk regions, such changes in some cells have been found that indicate the effects of highly intensive radiation! A discrepancy is obvious: the whole body dose was 30-50 rad, while the exposure of some cells was about 1000 rad and more." The professor had reported this facts to the Ministry of Health Care and the Academy of Medical Sciences of the USSR, but had received no answer to his scientific assumptions.

In 1989 the newspaper, Moscow News invited several people's deputies (the author of this report as well) to a round table on consequences of the catastrophe at the Chernobyl nuclear plant [8]. A deputy from Byelorussia Ales' Adamovich (deceased) reported: "... autopsies of people, who had died of other diseases, for example from ischemia, revealed that their lungs — this was registered by Professor E.Petryaev — contained enormous amounts of so-called "hot particles". Up to 15 thousand! 2 thousand of such particles are enough for cancer!" As is noted in the manuscript [9], which was sent from Israel to me by a former soviet nuclear physicist, Sergey Titkin, such effects of incorporation of solid particles has been known long ago — tobacco smoke, coal dust, silica (at great amounts causing silicosis). In the cases of Chernobyl, particles of reactor fuel that have been in the reactor, incorporated into lungs and have rigidly stuck to the lung tissue are under consideration.

In the information of the USSR State Committee on the Utilisation of Atomic Energy, compiled for the IAEA Experts Meeting in Vienna on the 25-29 August 1986 "The Accident at the Chernobyl Nuclear Power Plant and its Consequences [10]", the following is reported about the results of gamma-spectrometric

analysis of radiation, emitted from the body of those who suffered from the accident: "practically, in all patients, without evident relation to the presence or the severity of ARS, uptake of a complex mixture of nuclides, principally, isotopes of iodine, caesium, zirconium, niobium, ruthenium into the body was observed." There is another mentioning about incorporation of radionuclides. Further: "Excess fatality, related to the ChNPP accident discharge will increase spontaneous mortality from cancer of the irradiated population by less than 2 percent. in the present stage, incorporation of radionuclides through inhalation by inhabitants within the formed radioactive tracks can be neglected in estimation of dose burdens." It is also noted in this report that different radionuclides were found in lungs of some of the deceased from acute radiation syndrome after the catastrophe.

Obviously, a special study should be conducted in order to evaluate the actual scale of the danger of incorporated nuclear fuel dusts. From my own studies and interviews with hundreds of people who were in the affected zones immediately and several months after the catastrophe, it becomes evident that the scale of the accident was so enormous that ALL persons talked about radioactive dust, scratchy feeling in the throat, tractors lacking airtight, etc. People were associating radionuclides deposited on the ground with dusts that could be incorporated into their organism. They called it radioactive dust. Apparently, no one considered the particularity of so-called hot particles, penetrating into the human organism and sometimes irradiating it fatally. This is also one aspect of the problem of the radioactive contamination for inhabitants in the areas around Chernobyl.

Missed lessons of Chernobyl

Igor Geraschenko, a specialist of nuclear physics, which formerly lived in Kiev and lives in the West at present, has handed over to me a manuscript of his article "Missed lessons of Chernobyl [11]". (It is unknown if this article had been eventually published.) From the point of view of unbelievable coincidences, the article contains quite interesting facts. To make my point clear, I will go forth with rather a long quotation: "So what were the doses received by the people in the area of the catastrophe? Nobody knows this for sure. There have been almost no devices to measure radioactivity level in the area of the catastrophe. One of my acquaintances, a captain of the MIA (Ministry of Internal Affairs — A.Ya.) had spent a week in the encircle of the catastrophe area. He had no device for measurement of radioactivity, and he does not know what dose he had received. Transport drivers who worked for evacuation of the people had no measurement devices either. Did this happen accidentally? By no means! It was easier way to lie to one's own people and the trustful world public.

According to unverified data, in the town Pripyat (the nearest settlement to the nuclear station) the radioactivity

level has been 1 to 10 R/h. (Data that I have verified show that the radiation level in Narodichi of the Zhitomir region in the first days was 3 R/h, although Narodichi is located at 80 km from the ChNPP — A.Ya.). The relationship between the radiation level and the distance from the point of the explosion is very complex (wind direction, rain from the radioactive cloud and many other factors play important roles). However, the average radiation level is assumed to be inversely proportional to square of the distance, i.e., the radiation is four times less as the distance becomes two times larger (from the point of the explosion).

The maximum radiation level that I have personally measured in Kiev in late May (1986 — A.Ya.) was 0.0018 R/h. I measured it with a standard army device, taken from a class of Civil Defence. According to the measurements of my acquaintances in early May in Kiev, the radiation level amounted to 0.003 R/h. The distance from the exploded reactor to Kiev is about 130 km, and to Pripyat is about 5 km.

Thus, the average radiation level in the town Pripyat must have been $(130:5)^2=676$ times higher, i.e. about 2 R/h. Well, the values of 1 to 10 R/h are quite plausible for Pripyat.

The evacuation had begun only 36 hours after the explosion. Hence, the inhabitants of Pripyat have received a dose of 36 to 360 R. On the 26th of April they were 45 thousand people. How many of them are still alive? I do not know. (The manuscript of the article is dated May 1987 — A.Ya.) I know that approximately 15 thousand have died out of those who were being brought to the Kiev hospitals at nights I can say only the following: I was not collecting panic rumours. All information presented in this article has been obtained directly from those who worked on liquidation of the consequences of the catastrophe: transport drivers, hospital staffs, military personnel from the surrounding and many others.

No attempt had been made to treat the people that were brought to Kiev. There was no such possibility. It was impossible to obtain blood for transfusion and marrow for transplantation to several thousands of people. These patients were lying not only in radiological departments, but also in the wards, in the corridor, and in the basement of the hospital. In one of the hospitals, even a part of morgue was allocated for this purpose.

These 15 thousand people died from acute radiation syndrome."

A surprising coincidence of different sources: according to the secret protocols of the Operative Group of the Politburo, approximately 15 thousand people have been hospitalised during the first weeks. Academician A.I.Vorob'ev wrote in his article that 15 thousand people have been hospitalised by mistake and, after the medical staffs received the instruction for ARS (acute radiation syndrome), the patients were discharged. The witness by physicist, I.Geraschenko mentions this number as well. With only one terrible rectification: these people have died.

The further discussion of Geraschenko is also interesting:

"Such number will not surprise an attentive reader. About 70 thousand people died in Hiroshima (only an insignificant number of them died as a direct result of the explosion — the majority died due to the consequences of radioactive contamination), and in our case only 15 thousand by a discharge thousands of times larger. Definitely, there have been much more victims. Firstly, I mean only those who were mentioned in the data I have obtained. Secondly, the consequences of irradiation are long-term. Dozens and hundreds of thousands more will die from cancer induced by radiation, but this is going to happen later: the latent period can last for years."

I.Geraschenko made the statement about the 15 thousands of deceased in an interview to the newspaper "New-York City Tribune", and in the hearings on the consequences of the Chernobyl catastrophe in the US Congress. He told that, instead of the "acute radiation syndrome" diagnosis, "vegeto-vascular dystonia", "vascular dystonia", etc., were diagnosed in the case of people affected by the accident. This is already a proven fact. In the medical records of the deceased, such words were written as "has undergone a course of treatment", "needs no further treatment".

Recent status of the public health in the territories affected by the catastrophe

A new concept of living in the affected territory has been elaborated in the government of the Russian Federation, related with the radioactive contamination as a result of the catastrophe at the Chernobyl NPP. In this regard, the Ministry of the Environment of Russia and the Ministry of Labour of Russia are studying more deeply the health problems in 16 regions of the Russian Federation affected by the catastrophe. The fact is taken into consideration that the majority of people residing in this territories have learned that they live in a zone of radiation danger only 7 years after the catastrophe in Chernobyl. It is noted in the report of specialists of the Ministry of Labour of Russia and the Ministry of the Environment of the Russian Federation, M.S.Malikov and O.Yu.Zitzer [12] that the Chernobyl catastrophe has affected 138 administrative districts, 15 cities of region subordination, and more than 7,700 settlements with a population of 2.7 million people. According to the data of April 1995, the number of Russian citizens, the death of which is attributed to involvement in liquidation of the consequences of the Chernobyl catastrophe, amounts to approximately 7 thousand. The number of people, whose living standards have worsened due to the catastrophe, or who have become invalid due to this reason, amounts to approximately 20 thousand people.

In the report of the specialists of the Ministry of Labour of Russia and the Ministry of the Environment of the Russian Federation, an unexpected confirmation was found of the facts in the before-mentioned secret letter of the Minister of Health of the Ukraine, A.E.Romanenko to the Minister of Health of the USSR, E.I.Chazov on high accumulation of radionuclides in

thyroid of the Ukrainian children. According to the authors, at present 2.4 million people, including more than 500 thousand children under 14 years, are living in the Ukrainian territory affected by the catastrophe at the Chernobyl NPP. The most alarming, as is noted in the report, is the fact that 150 thousand inhabitants have received thyroid irradiation doses by dozens or hundreds of times higher than the acceptable level. In particular, thyroid doses of 5.7 thousand children were 200 rad, and those of 7.8 thousand adults — higher than 500 rad [13]. At the same time, the established acceptable dose is 5 rad. In this group of the affected population, 12 cases of malignant thyroid tumours in children have been registered only in 1991.

The experts note that diseases of respiratory and digestive organs, endocrine and blood circulation systems take a significant place in the structure of illnesses of children in the radiocontaminated zone of the Ukraine. As well, an increase in the number of neoplasm has been noted.

Medical examination of 583 children of the first class of school in Kiev, has shown a retardation in body development in a significant part of children in 1992 in comparison with 1982. Retardation is expressed more markedly among girls.

As the authors of the report state, the analysis of rates of mortality from malignant neoplasm in the population of the Ukraine residing in the territories adjacent to the zone of the Chernobyl NPP for the periods of 1980-1985 and 1986-1991 bears reliable evidence of an increase in the mortality from cancer of mammary gland, urinary organs and prostate.

Assessment of strontium-90 accumulation in the organism of Belarussian citizens after the accident at the ChNPP has shown that the evaluated absorbed doses in red bone marrow turned out to be 2.5-3 times higher than in the period before the accident. In 3 percent of the cases the doses have exceeded the average values by 4-8 times.

The Russian specialists note that iodine deficiency in some regions of Belarus known for endemic goitre (there is a lot of areas characterised by anomalous concentration of certain microelements, including radionuclides present due to the accident discharge of the ChNPP) had caused the maximum impact of a complex of radiotoxic factors on developing thyroid disorders. This may be a reason for more severe injury of thyroid than expected on the basis of the known dose-effect relationship.

The values of the plutonium concentration in hair of inhabitants of the Gomel region has been an order of magnitude higher than in hair of residents of Minsk.

Medical examination of 902 children in Bragin, Choiniki and Narovlya districts of the Gomel region had shown that 218 of them suffer anemic syndrome. Among them, goitre of the first degree was manifested in 68.3 percent of girls and 52.6 percent of boys, goitre of the second degree in 24 and 18.2 percent,

respectively, and goitre of the third degree in 1.4 percent of children. A higher level of illnesses of blood and hemopoietic organs, endocrine system, respiratory organs, digestive organs and an increase in the number of neoplasm have been found in children from the controlled areas.

The similar situation is also observed in the children living in the controlled areas of the Kiev, Zhitomir, Cherkasy and Rovno regions in the Ukraine.

The Russian specialists are also concerned about neonatal mortality during pregnancy and child-birth by women living in the areas of increased radiation risk after the catastrophe at the ChNPP. As it is noted, this mortality tends to increase. The rate of normal child-birth has decreased to a significant extent. The number of congenital anomalies of newborn is growing. (There is a restricted laboratory in Zhitomir in the Ukraine with anomalous newborn humans and animals stored in alcohol that have been born after the catastrophe at the ChNPP in the territory of Zhitomir). In the period before the accident the rate of abnormal child-birth (for 100 pregnancies) had been 9.6. After the catastrophe this rate increased to 13.4. A significant relation was found between this rate and dose burdens of women. It is noted that adaptability of newborn to the environmental conditions, i.e. increased radioactivity as well, has decreased substantially in the first 6 years after the accident.

Here it will be pertinent to return to the manuscript of the Russian immigrant, physicist from Kiev, Igor Geraschenko "Missed Lessons of Chernobyl" that was handed to me in England in 1991. He also mentions this topic. He wrote: "There are other victims of Chernobyl — those who had never seen nothing. These are children killed before birth. After the explosion physicians recommended pregnant women in Kiev and other places to do abortion. I know of several cases in which these forced abortions were made in the 6th month of pregnancy officially by doctors in hospitals. over the last year (the year under consideration is the first year after the catastrophe at the ChNPP — A.Ya.) no less than 20 thousand pregnancies have been aborted due to the Chernobyl catastrophe only in Kiev. And how about the women evacuated from Pripjat?"

While I was travelling through the contaminated villages of the Zhitomir region several months after the catastrophe, I heard the same: pregnant women were advised to make abortions, but were recommended not to tell anyone about such advice. One should note that such pieces of advice were given immediately after the catastrophe at Chernobyl. Today, even 11 years since the catastrophe, specialists refer to its severe consequences for pregnant women. This is also an indirect confirmation of the fact that no one knows the actual doses received by the population, including women of reproductive age in the first weeks and

months after the explosion at Chernobyl. We can only guess that these doses were significant, judging from their effects years later.

Eleven years passed since the nuclear explosion in Chernobyl. However, the public still do not have reliable information on the ACTUAL doses received by the people affected by the Chernobyl radioactive tracks in the first weeks and months after the gravest anthropogenic catastrophe which had ever happened on Earth. In the first place, the world scientific and the semi-scientific nuclear community, which serve the world's political establishment and are not inclined to disclose the truth, should bear the responsibility for this. The disclosure of this truth may lead to a radical change of nuclear contribution in the world power system. The interests of "moneybag" — the world nuclear lobby — have been shown to be more important than the interests of the whole world community. However, shall it always be this way?

References

1. Ecological particularities and medical, biological consequences of the accident of Chernobyl nuclear power plant. Report by 23 scientists (L.Ilin and etc.) for meeting of USSR Medical Sciences Academy, 21-23 of March, 1989. Copy of report from personal archive of author.
2. Report by V.Doguzhieva, Chief of Governm. Comm. on elimination of consequences of Chernobyl catastrophe. Shorthand of meeting of Supreme Union USSR Session. 1990. Copy of shorthand from personal archive of author.
3. Letter by Min. of Health of Ukrainian SSR, A. Romanenko to USSR Min. of Health, E.Chazov, May 26, 1987, #428. Copy of the let. from personal arch. of author.
4. Report by USSR Minister of Health, E.Chazov to Central Committee of Communist Party of the USSR, November 16, 1987, #363c. Copy from personal archive of author.
5. Draft of resolution by Central Comm. of C.P. of the USSR "About execution of resolution by XXVIII Congress of Communist Party of the USSR "About political estimation Chernobyl nuclear power plant catastrophe and condition of work on elimination of its consequences", December 28, 1990. Copy from personal archive of author.
6. A.Vorob'ev. Why soviet radiation is the securest. Moscow news, #33, August 18, 1991.
7. A. Yaroshinskaya, Chernobyl: Top Secret, Drugie berega, Moscow, 1991.
8. Big lie. A "round table" by "Moscow news", 1990.
9. S.Tiktin. About some particularities of "Chernobyl" radiation syndrome. 1992. Copy of the manuscript from personal archive of author.
10. Chernobyl nuclear power plant accident. USSR Governm. Comm. on atomic energy. Moscow. 1986.
11. I.Gerashenko. Missed lessons of Chernobyl. 1987. Copy of the manuscript from personal archive of author.
12. O. Zitzer, N.Malikov. Analyse of contemporary system of social, economic and medical defence of population and working up of proposals for its improvement. Copy of report from archive of author.
13. National Rep. of Ukraine for UN Conf. on Environment and Development, Evraziya, #7, 1992, Moscow.